executed instruct the processor to retrieve variable values from a database and perform a regression using the retrieved variable values.

44. A machine readable medium in accordance with claim **40** wherein the instructions when executed instruct the processor to display a visual selection of mathematical variable transforms for at least some variables and to accept a selection of the mathematical variable transforms and store the selection in a memory.

45. A machine readable medium in accordance with claim **40**, wherein the results of the selected stored regression model specifications include a medical outcome prediction, a confidence level, and a symptom probability.

46. A method for providing decision support, the method comprising using a programmed computer to:

(a) input a regression model specification related to providing predictions regarding the outcome for a patient of a medical treatment;

(b) repeat (a) a plurality of times to obtain and store in computer readable memory a plurality of the regression model specifications; and

(c) output for display a user interface including one or more fields to receive respective patient parameters corresponding to the reduced redundancy request for input of variables;

display a set of stored regression model specifications;

accept a selection of the displayed regression model specifications for use;

display a user interface that requests a user to provide input of variables for the selection of regression model specifications;

accept input values for the variables requested; and

use the accepted input values to determine and display results of the selected stored regression model specifications.

47. The system of claim **33**, further comprising presenting the predicted estimates as a function of time at high altitude.

48. The system of claim **33**, further comprising basing estimates of altitude illness and acclimatization on validated predictive models over a wide range of altitudes.

49. The system of claim **33**, further comprising:

calculating altitude accent profiles in terms of meter/days; and

using the accent profiles to develop individual altitude acclimatization protocols.

50. The system of claim **33**, further comprising at least one module, where the module is in the form of at least one of a:

acute mountain sickness assessment module,

physical performance capability assessment module,

altitude acclimatization assessment module.

51. The system of claim **33**, further comprising:

tracking acclimatization status in real time;

using the real-time acclimatization status to make a physical performance capability assessment; and

adjusting individual work-rate intensity to the individual risk of developing AMS.

52. The system of claim **33**, further comprising providing an estimate of altitude acclimatization status based on likelihood of altitude sickness and the magnitude of work impairment.

53. The system of claim **33**, further comprising a wearable device and/or as part of a networked system that automatically tracks a subject's altitude exposure and provides real-time estimates of altitude acclimatization for a wide range of possible target or operation altitudes.

54. The system of claim **33**, wherein the at least one statistical health model is designed to consider data comprising at least one of the following parameters: subject demographics, sex, age, resident altitude, rate of ascent, operational altitude, work intensity, duration of exposure at operational altitude, AMS symptom severity scores, data collection time-points, physical performance assessment metrics, cognitive performance assessment metrics, specialized skill performance assessment metrics, ventilation, blood & urine parameters, pulse oximetry, medications, VO2 Max, Body-Mass Index, actigraphy, diet, descriptive predictors (i.e. fitness level), physiological predictors (e.g., sea-level $PETCO_2$, and resting heart rate (HR).

55. The system of claim **33**, further comprising estimates of acclimatization as a function of target altitude.

56. The system of claim **33**, further comprising estimates of estimates of acclimatization status for a range of higher altitudes.

57. The system of claim **33**, further comprising real-time estimates of the altitude acclimatization status of personnel based on their longitudinal histories.

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